NUMBER SIX NOTES FROM THE SHOP

Woodsmith™

EARLY AMERICAN DESIGNS

COOKBOOK SHELF, SPICE BOX, SCONCE

MUSIC BOX: IT GREETS YOU WITH YOUR FAVORITE TUNE

SPECIAL: PATTERNS FOR NINE WOODEN ORNAMENTS

Woodsmith

Number Six November, 1979

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Talking Shop

ABOUT THIS ISSUE

Christmas is closing in fast. That's the way I sometimes feel as that gift-giving day approaches. But I've found that if I go down in my shop and take the time to make gifts to give, I feel more in tune with the spiritual meaning of Christmas. There's something about giving gifts that I've made with my own two hands that kind of puts things in the right perspective.

I didn't intend for this issue to be entirely gift-oriented. It just kind of turned out that way. My original objective was to create projects with two things in mind: First, I wanted to have some Colonial-style projects. And second, I chose projects that involve the technique of resawing.

Too often we're limited to designing and building things based on standard dimension lumber. But resawing offers the chance to proportion the thickness of the wood to the size of the project; instead of the other way around.

The two jigs shown on page 9 are used for resawing. There's no doubt that resawing can be done on a table saw. But there is also no doubt that resawing is quite taxing on your saw and your nerves. This operation is a good deal easier and safer on a band saw. If you have a band saw (or have access to one), I'd certainly recommend using it for resawing.

A SLIPPPERY ROUTER

In the instructions for making the drawers for the projects in this issue I mention that I used a dado head on a table saw to cut the rabbets. I did. But if you built the *Woodsmith*-designed router table shown in the last issue, you can use it.

In fact, I started out using the router table, but I ran into a problem. As I was cutting the rabbets in the drawer fronts for the Spice Box, the bit started to slide up out of the collet. This was rather disconcerting.

I had a *Craftsman* 1 Hp. router mounted to the router table. I don't know if this same thing will happen with all *Craftsman* routers, but I thought I should at least warn you of the possibility. Watch for it.

I'm going to be testing some other routers to see if the same thing happens. And I'll report back. If, in the meantime, you are having the same problem with your router, please let me know so I can pass the word along.

A LOOK INTO THE FUTURE

This issue marks the completion of the first year of *Woodsmith*. Rather than reflect on how great the first six issues were, I thought I'd do a little crystal ball gazing: a glimpse into the future of *Woodsmith*.

The first thing I see is money. Now that's always an interesting subject . . . as long as you're on the receiving end. What I have in mind is offering a reward for tips and techniques sent in by readers. These ideas would be published on a special page in *Woodsmith*.

Right now I'm thinking in terms of the smaller ideas that can be written up in a paragraph or two along with a simple drawing or sketch. But there is also the possibility of using your bigger ideas and devoting an entire article to them.

As you're working in your shop this winter, write down some of your own tips or techniques. Later, when this page gets underway, I'll provide all the information about sending them in. Who knows, you might be on the receiving end of $10 or $20.

• *A source book.* It's unfortunate but true that most lumber yards and hardware stores cater to the construction and remodeling trade more than to woodworkers and cabinetmakers. That leaves us kind of out in the cold.

But coming to the rescue are a number of sources that offer just what you're looking for via mail order. I've been collecting catalogues and addresses of these sources and will put them all together into one source booklet. There will be listings for tools, supplies, hardware, wood, plans, and kits. (It will probably take until next Fall at the earliest to get it all together though.)

• *A questionnaire.* Too many magazines publish only what they want and never bother to ask the readers what he (or she) wants. A questionnaire ought to help get *Woodsmith* on the right track.

I'd like to find out what you like and dislike about *Woodsmith*, what projects you've built, and what articles interest you the most.

In addition to getting your reaction to *Woodsmith*, I hope to include some questions about what kind of tools you have, if you're more interested in techniques or project plans, and your ideas for future articles, etc. This will probably appear in the Spring.

Have a Merry Christmas, and I'll see you next year.

NEXT MAILING: Jan. 2, 1980.

Spice Box

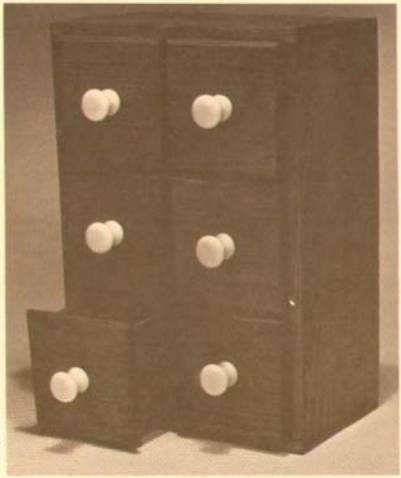
DRAWERS, DRAWERS, DRAWERS

This spice box is kind of fun. Basically, you start with a 6-foot piece of wood (I used pine) and proceed to cut it up into 41 very small pieces.

Start with a board ½" x 7¼" - 72" and cut it into two 36" lengths to yield the top two boards illustrated in the Cutting Diagram: 4" wide and 3" wide.

From the other 36" length rip a 3-3/4" width and a 2-9/16" width. Cut (C) and (D) off the 3-3/4" width. (It's best to cut these 1/8" long and trim to fit later.) Resaw the remainder of this board and the 2-9/16" width to yield boards 3/16" thick. (If you don't want to resaw, you can use ¼" plywood for pieces (G), (H), and (I), changing the dimensions and rabbets as shown in Figs. 1 and 4.)

Spacing for the dadoes and rabbets is shown at the bottom of the Cutting Diagram. Cut the rabbets at the end of the top and bottom (B), and a dado down the center. Keeping the dado head set at the same height, cut the dadoes in the sides (A). Finally, cut a rabbet ¼" wide by 3/16" deep along the back edges of (A) and (B).



For all of these cuts I used a dado head on the table saw and worked from the side, using the fence as a guide.

Dry-clamp (A) and (B) together and cut the shelves (C) to fit between the sides. Then cut the dadoes for the dividers, and finally trim the dividers to fit.

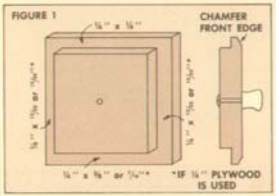
For the drawers: cut the four rabbets on the back of (E) as shown in Fig. 1. Then chamfer the front edges. (I used a Vee-grooving bit in a router mounted to a table.) Finally, drill holes for the porcelain knobs.

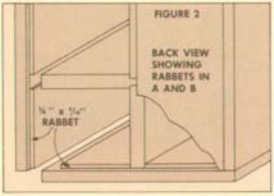
I found it easier to finish-sand all pieces before final gluing. Then I gave the spice box two coats of *Minwax* "Early American" stain. This stain produces a very pleasant honey-brown tone on pine. I finished with two coats of *Minwax* Antique Oil finish.

MATERIALS LIST

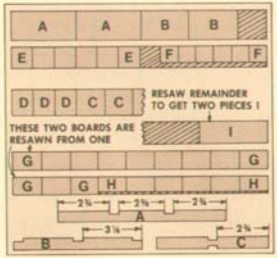
A	Side	2	½ x 4 - 9⅛
B	Top & Btm.	2	½ x 4 - 6¾
C	Shelf	2	½ x 3¾ -6*
D	Divider	2	½ x 3¾ - 2⅞ *
E	Drawer Front	6	½ x 3 - 3
F	Drawer Back	6	½ x 2⅝ - 2 7/16
G	Drawer Side	12	7/16 x 2 7/16 - 3¾
H	Drawer Btm.	6	7/16 x 2 7/16 - 3¾
I	Case Back	2	7/16 x 3⅛ - 9⅛

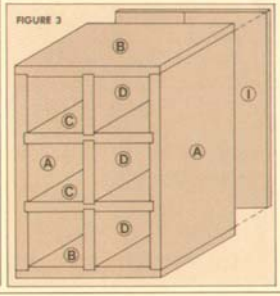
*Cut ⅛" long, trim to fit

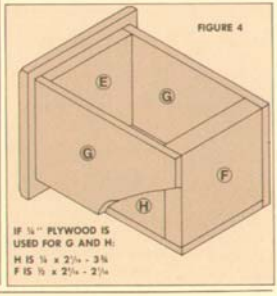




CUTTING DIAGRAM

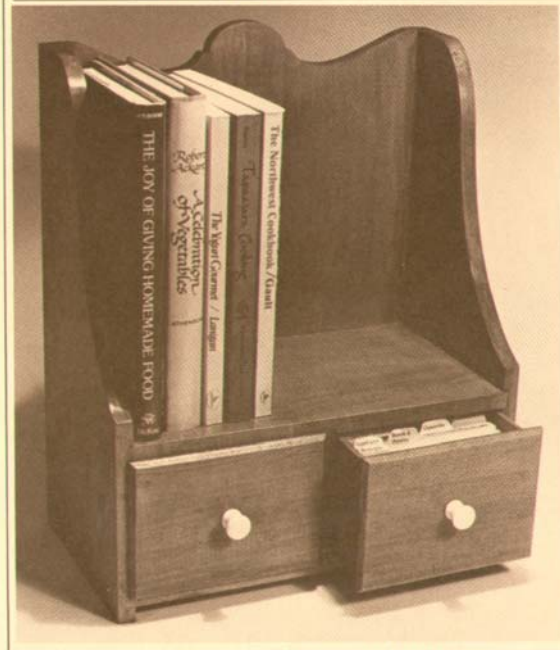






Cookbook/Recipe Shelf

COMPACT STORAGE FOR COOKBOOKS AND RECIPES



It may not improve the cooking, but this little storage rack ought to make it easier to find your favorite recipes. By combining a cookbook rack and recipe file, everything can be conveniently stored in one place.

For the basic unit you'll need two boards ½" x 7¼" - 48" (the top two boards shown in the Cutting Diagram). I chose Hard Maple for this project.

Rip and cut these boards to the dimensions given in the Materials List. One note: as you're ripping the back pieces (B), you'll want to cut them about 1/8" wider than called for, and the shelf (C) and divider (D) 1/8" longer, then trim to fit.

The two back pieces (B) are simply butted together for gluing. (I didn't use dowels or a spline because I don't think it's necessary.) However, I did use *Weldwood* Plastic Resin glue (a very strong glue that comes in powder form that you mix with water.)

While the back pieces were drying, I went ahead on the drawers. This is a case of working to the inside dimensions of the drawers. Since the purpose of the drawers is to hold recipe cards (which are usually 3x5 note cards), the dimensions given allow enough room for easy removal of the cards, and a little extra space at the top for index tabs.

The pieces for the drawers are cut from the third board shown in the Cutting Diagram (½" x 5¼" - 48"). I cut this board into three lengths for easy handling: 24", 14", and 10" long. Rip and cut the drawer

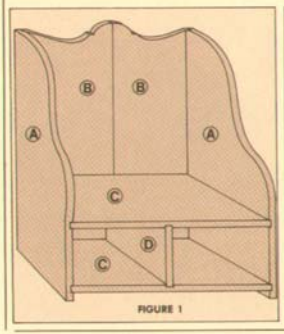
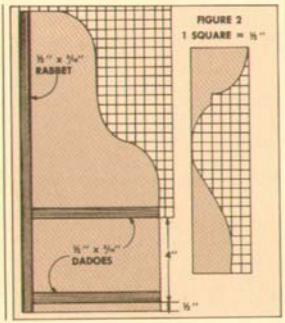


FIGURE 1

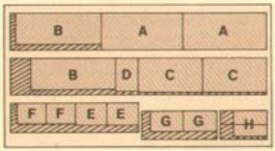


MATERIALS LIST

A	Side	2	½ x 7¼ - 15½
B	Back	2	½ x 6 - 16
C	Shelf	2	½ x 6 11/16 - 12*
D	Divider	1	½ x 6¾ - 4⅜ *
E	Drawer Front	2	½ x 4⅜ - 5 11/16
F	Drawer Back	2	½ x 3 11/16 - 5½
G	Drawer Sides	2	7/16 x 3 11/16 - 6⅜
H	Drawer Btm.	4	7/16 x 2 7/16 - 6⅜

*Cut ⅛" long, then trim to fit.

CUTTING DIAGRAM



fronts (E) and backs (F) from the 24" length. The 14" length is ripped to 3-15/16" wide, and then resawn to yield two 3/16"-thick drawer sides (G).

I've found there's much less strain on your saw (and your nerves) if the resawing operation is done on boards no wider than 4". So, I ripped the 10" length in half and then resawed it for the bottoms (H).

Rabbets are cut in the drawer front and back as shown in Fig. 3. Cut a 3/16"-wide dado along the bottom of the front and back, leaving a ¼" lip.

Option: If you'd rather not resaw for the drawer sides and bottom, I'd suggest using 1/8" birch veneer plywood. It's usually available at hobby stores.

The drawers can be glued together now. The bottom (H) is *not* glued in place; it simply rests in the dadoes.

Now back to the case. Cut the dadoes and rabbets in the sides (A) as shown in Fig. 2. Make sure the distance between the dadoes fits the drawers. As you cut each dado in the side pieces, cut it in the back at the same time so you're sure they line up.

You can use the pattern shown in Fig. 2 for the "S" curve on the sides, but it's just as easy to freehand a gentle curve that suits your eye.

The pattern for the top of the back is shown in Fig. 2. When this is cut out, you're ready to start assembling. Dry-clamp everything together, and cut the shelves (C) and divider (D) to fit. The final test is to see if the drawers fit.

Give all pieces a final sanding. (It's much easier to do it now than after assembly.) Then glue the case together.

I stained this unit with *Minwax* "Early American", which produces a very nice tone, but covers the delicate grain of maple. If I were doing it again, I'd leave it natural and finish with only a couple of coats of oil finish.

Candle Sconce

COLONIAL LIGHTING REVISITED

It's not the least bit difficult to see why candle sconces have remained popular: A flickering candle flame casting a warm glow on the wood behind it. It's enough to make you poetic . . . if not down-right romantic.

The candle sconce shown here is made from Cherry wood, and designed to use only one piece ½" x 5" - 24".

Cut out the three pieces as shown below. Before doing anything else, it's best to have the glass chimney in hand. The chimney shown here has a base of 3" in diameter and is 10" high.

First determine where the chimney will rest on the base. I positioned it toward the front edge, leaving 3/4" between the glass and the back.

The candle fits into a 7/8" diameter hole, but if you don't have a bit that size, 3/4" will do. Drill this hole ¼" deep. Then use a circle cutter to cut the 1/8"-deep circular groove. I cut two circles: one just slightly larger than the outsides diameter of the chimney's base, and the other slightly smaller than the inside diameter. This produces a "W" groove than can be chiseled out to a flat bottom.

As you use the circle cutter, you'll be drilling through the bottom of the 7/8" (3/4") hole. Use this through hole to mark the shelf support and drill a hole for a ¼" dowel pin. Also drill two holes to join the shelf support to the back with dowel pins, as shown. Finally, mark the position of the dado in the back piece and cut it.

I finished this sconce with three coats of oil. Then I pressed some beeswax in the circular groove to hold the chimney in place.

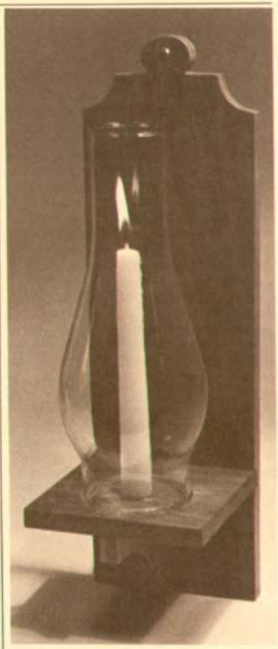
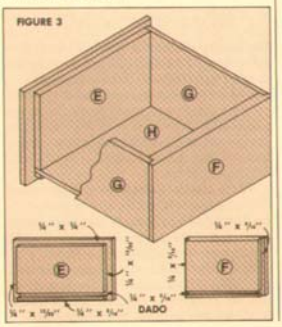
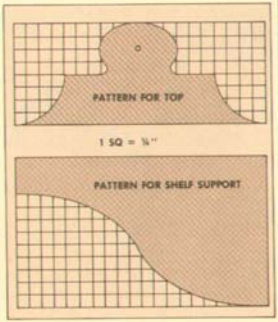
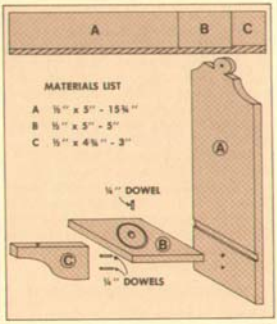


FIGURE 3







Music Box

A BOX THAT GREETS YOU WITH YOUR FAVORITE TUNE

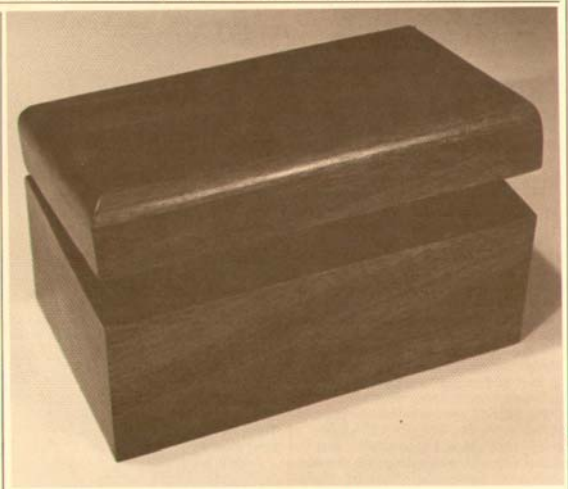
Music boxes have an irresistible charm about them. Anything that can greet you with your favorite tune and add a little smile to the day is worth building.

The music box shown here is made of solid walnut. Though it's quite a small box, it requires a good deal of time and a heaping tablespoon of patience to make.

The corners are joined with a rabbet and groove joint — a very strong locking joint. And the top is hinged with a special method unique to small boxes like this. All in all it's a challenging project that's well worth the effort.

Before you start building the box, it's a good idea to purchase the musical movement. The movement in this box is a one-tune, 18-note Swiss movement. It was purchased from *The Woodworkers' Store* (by mail). But if you really want to get into making music boxes, larger movements are available that play up to six tunes. (See the end of this article for sources.)

One more thing about musical movements, depending on its size and the manufacturer, the method for turning it on and off will vary. But that method is the key as to how the box is constructed. Most small movements incorporate a lever/spring release. The design of the music box discussed here is based on that kind of release. But, get the movement first and make sure we're in the same ball park.



CONSTRUCTING THE BOX

I used walnut for this box, though Cherry would also be a good choice. (I'd avoid pine or any softwood, even on a practice run, you'll just run into trouble making the joints.)

The first step is to resaw the wood to a strong 5/16" thick. There are two reasons for the 5/16" thickness. First, this is the thinnest you can go and still make the rabbet and groove joint using standard tools. And second, if you use a band saw to resaw ½" thick wood, you come out with the strong 5/16" you need.

Start with a piece of hardwood ½" x 3½" - 18" minimum, and resaw, plane, and sand the two halves to 5/16" thick. Then cut the front, back, and sides (A and B) to the dimensions shown in the Cutting Diagram and Materials List. The top (C) and the bottom (D) are cut 1/8" long then trimmed to fit.

THE DADO AND GROOVE JOINT

A dado and groove joint is used to join the four sides. A detail of this joint is shown in Fig. 2. I used a single dado blade to cut the dado in the sides (B).

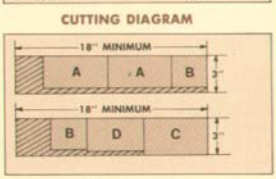
The front is cut by mounting it in a tenon jig and cutting the 1/8"-wide, 5/16"-deep slot. The important thing here is to make the cut so the 1/8"-wide tenon on (A) fits snugly into the dado in (B). You don't have to worry about the thickness of the long tenon that covers the end grain of (B). When trimming the end off the 1/8"-wide tenon, cut it a tad short of fully seating in the dado.

After cutting the corner joints, rip a groove along the bottom edge of the front and back, as shown in Fig. 2. This groove accepts a tongue cut on the bottom (D). You can make the same groove in the side pieces (and lengthen the bottom to provide end tongues), but I don't think it's necessary. I just butted the ends of the bottom against the sides.

MATERIALS LIST

A	Front & Back	2	5/16 x 3 - 6
B	Sides	2	5/16 x 3 - 3⅛
C	Top	1	5/16 x 3½ - 6
D	Bottom	1	5/16 x 3⅛ - 5⅜

CUTTING DIAGRAM



ATTACHING THE MOVEMENT

Dry-clamp the front, back, sides, and bottom (A, B, and D) together to make sure everything fits. While clamped together, position the musical movement on the bottom and mark for drilling the three holes for the screws that hold the movement in place. (If the movement you have is like the one I used, you'll need 3/32" pilot holes.)

You'll also have to drill a 7/32" hole through the bottom for the wind-up handle on the bottom of the movement. Then screw the movement in place and make sure the handle turns freely.

The on/off lever on the movement is activated with a thin wire leading up to the lid. As the lid is closed the wire pushes down on the on/off lever and

stops the movement. When the lid is lifted the lever springs up and the music starts.

The point here is to get a thin wire from the lever to the lid. I did this by drilling a ½" diameter hole, ¼" deep on the side piece, as shown in Fig. 1. This hole should be drilled with a Forstner or spur bit. Later, the 1/16" hole is drilled.

ADDING THE TOP

When everything checks out, glue the box together. (I used *Weldwood* Plastic Resin glue.) Only the corners are glued, the bottom is left free to "float" in the dado.

After the glue is dry on the four corners, unclamp and put the top (C) on. There is no joinery involved in attaching the top to the sides of the box. It's just glued to the top edges.

When the top has dried, sand the corners and edges square. Then measure down 1" from the top and cut through all four sides to form the lid. This is best done on a band saw, but can be accomplished in four cuts on a table saw.

Once the lid is cut off, drill a 1/16" hole through the top edge of the side and into the ½" hole. Connect a short length of 20-gauge brass wire to the on/off lever, feed it up through the 1/16" hole, and bend it into a circle on tip. (This is shown in the detail photo at the top of this page.) You'll also want to cut a small notch in the lid so it will close all the way.

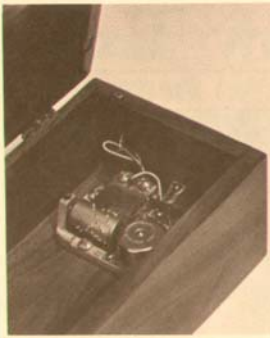
The method for attaching the hinges to the box requires a *Dremel Moto Tool*. First cut a chamfer along the back edge of the box and the lid, as shown in Fig. 3. To cut the slots for the hinges, use the *Dremel Moto Tool* along with a *Dremel* router attachment.

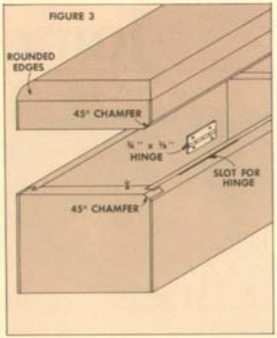
The hinge — 3/4" long and 3/8" wide (open) — is glued in the slots with "airplane" glue. Hinges this small are difficult to find in hardware stores, but should be available in craft supply stores.

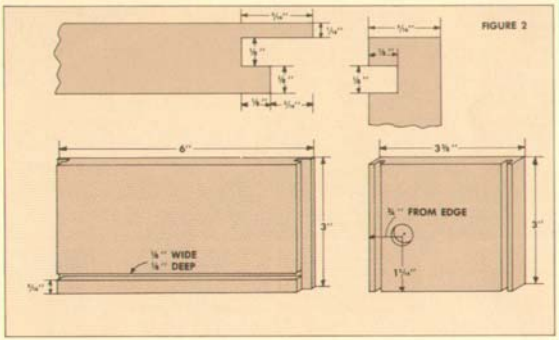
To finish this music box, I used 3 lb. - cut shellac and thinned it 50/50 with denatured alcohol. I applied four coats, sanding with 220 grit silcon carbide paper between coats. The final coat was steel-woolled with No. 0000 steel wool, and given two coats of furniture wax.

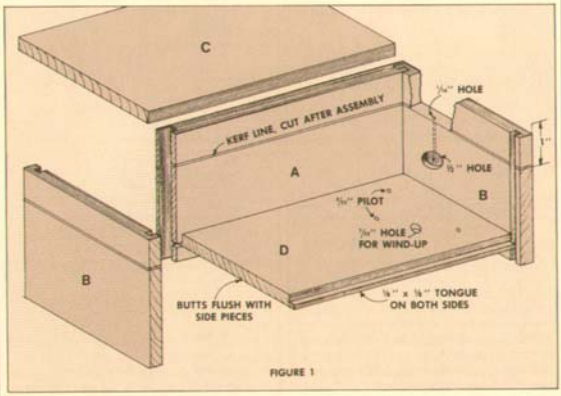
SOURCES FOR MUSICAL MOVEMENTS

The following two sources carry one-tune, 18-note Swiss musical movements: *The Woodworkers' Store*, 21801 Industrial Blvd., Rogers, Minn. 55374. *Woodcraft Supply Co.*, 313 Montvale Ave., Woburn, Massachusetts 01888. If you really get into music boxes, the following company carries a complete line of Swiss musical movements — up to six tunes on one drum: *World of Music Boxes*, 412 Main St., Avon, N.J. 07717. Catalogue: $1.00.



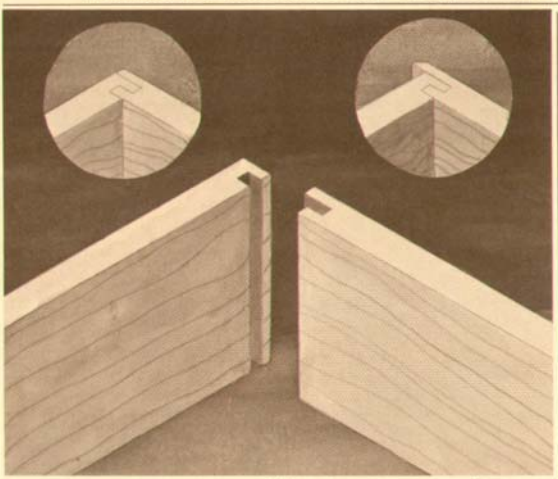






Joinery Techniques

A STRONG LOCKING JOINT KNOWN BY MANY NAMES



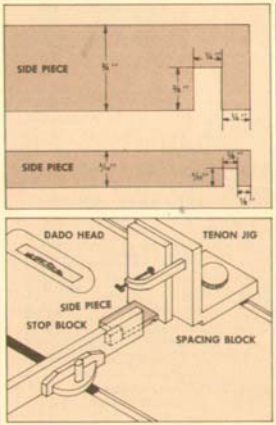
Sometimes it's called a rabbet and groove joint, or a milled dado box corner, or a combination dado rabbet. And if I had to name it, I'd call it a dado/tenon joint. What it is is a variation on the plain old rabbet joint, but cut as a locking joint.

It's used on drawers to join the front to the sides. In this application it is usually cut so the face tenon extends beyond the side to form a lip.

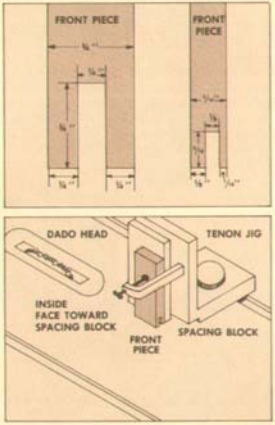
But most often this joint is seen on small boxes where thin wood is used and you want a minimum of end grain showing.

The illustrations below show the three steps involved in cutting this joint. The top row of drawings shows the spacing of the cuts using two thicknesses of stock: 3/4" thick and 5/16" thick. The dimensions on the 3/4"-thick stock are the traditional proportions, that is, the mortise in the front piece is one-third the thickness of the stock.

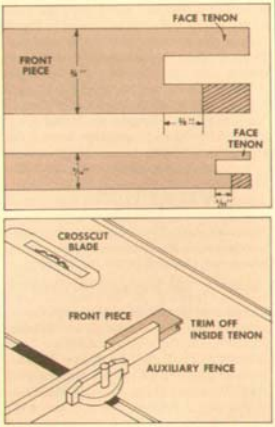
However, when this joint is used to join the sides of a small box, the face (outside) tenon can be quite thin. In fact, it can be cut so the face tenon is only 1/32" thick, thus leaving a bare minimum of end grain showing.



SIDE: *Use a spacing block on a tenon jig as a stop. Adjust jig so it's desired distance from dado head. Slide only miter gauge forward to make cut.*



FRONT: *With tenon jig and spacing block in same position, insert front piece with face toward spacing block. Depth of cut can be deeper to form lip on a drawer.*



FRONT: *Use crosscut blade to cut off inside tenon. This tenon should be just a tad short of fully seating in the dado to allow a glue relief.*

Resawing Jigs

HOW TO GET TWO FOR THE PRICE OF ONE

Resawing is dangerous. It's also hard on your saw's motor, your saw blade, and your nerves. But it is a way to get thin pieces of wood without the waste involved in planing down a thick board.

Resawing is the process of ripping a thick board into two (or more) thin ones. It can be accomplished on a table saw with the aid of the jig shown at top. This jig is simply a plywood base to which a 2x4 is attached. The 2x4 should be ripped so it's height (when on the plywood) is equal to the height of your fence.

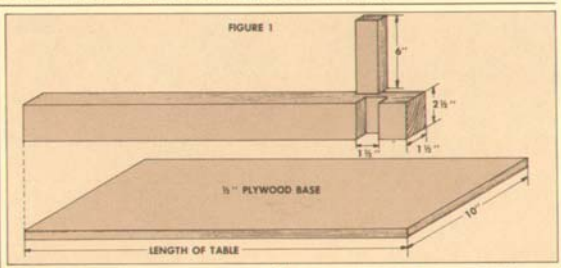
Before attaching it to the plywood, cut a notch for a 1x2 post that will accommodate a hold-down clamp. (I use a *Jorgensen* hand screw clamped to this post.) The post is positioned so it clears the "up-end" of the blade. (This allows you to push thin stock all the way through the blade without running into the hold-down.)

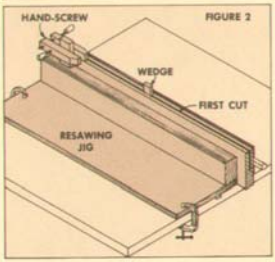
Figure 2 shows the resawing jig in place during operation. The jig and fence must be exactly perpendicular to the table and parallel to the blade and each other. The stock should slide easily between them, but *not wobble*.

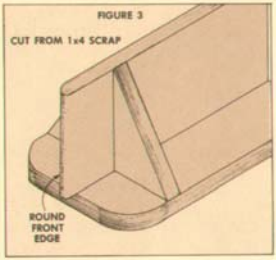
In general, it's best not to resaw stock that's wider than 4", or narrower than the height of your fence. And, the stock used for resawing must be free from any warp, cup, or twist.

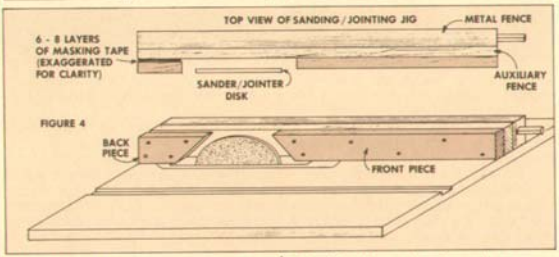
The procedure I follow for resawing is as follows: Adjust the height of the blade (depth of cut) to a little over one-half the width of the stock. Then lower the blade all the way down, counting the number of cranks it takes to lower it. Next, position the stock, fence, jig, and hold-down and make a practice run. Finally, raise the blade by cranking it up the same number of turns it took to lower it.

After the first cut, I insert a small wedge in the kerf and make the second cut. For cutting hardwood, I use a 40-tooth carbide tip blade.









BAND SAW METHOD

A much better way to resaw is on a band saw. Use the widest blade your band saw will accept. (I use a ½"-wide blade.) Since most band saw blades have a tendency to lead one way or the other, you can't use a long fence.

But to give the stock some support you can use the kind of jig shown in Fig. 3. The rounded front edge allows you to pivot the stock to adjust for the lead of the blade.

Clamp the jig the desired distance from the blade and press the stock firmly against the jig. Be very careful at the end of the cut. I stop an inch or so short and each around and pull the stock through to finish the cut.

SANDING JIG

Whether you use a table saw or band saw for resawing, the resulting cut is not what you'd call smooth. That's where the jig shown in Fig. 4 comes in. This jig is used with a *Sears* jointer/sander disk. This disk tilts at 2° and produces a straight-line sanding pattern.

The jig is just two pieces of wood. The front piece is screwed to a wood auxiliary fence that's fastened to the metal fence. The back piece is spaced out about 1/32" by using 6 to 8 layers of masking tape. Line up the face of the jointer/sander disk with the back piece. When in use, hold the workpiece firmly against the fence with spring clamps or "finger boards."

Christmas Ornaments

TRIM YOUR TREE WITH WOODEN ORNAMENTS

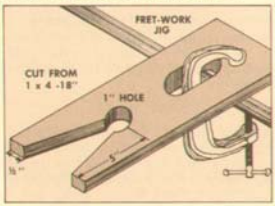
Every family seems to have their own special Christmas-tree ornaments. I still remember my favorite (a sparkling red Santa), and the eager anticipation of hanging it in a very prominent place so everyone would see it.

In recent years the trend of almost everything has moved toward more natural things. So, this year I decided to make a set of wooden ornaments. Seven of the nine are shown hanging on the branch in the photo above. (I just couldn't get all nine in the picture.)

They're made of ¼"-thick, resawn maple and lightly oiled with pure tung oil. On the opposite page are full-size patterns of each ornament.

I made them by first resawing some maple down to a ¼" thickness. All of the ornaments are sized to easily fit on a piece of wood 3½" wide. If you don't want to resaw, another choice might be to use 1/8" birch veneer plywood. (Yes, they make it that thin, and it even has five plys! It's available at hobby stores that sell supplies for building model airplanes.)

Once you've resawn the wood to the proper thickness (or obtained the plywood), trace the outline of the patterns using a piece of carbon paper. If you have a jig saw or band saw cutting them out is quite easy. But I like to do it by hand. The fret-work jig shown in the drawing is designed for this kind of intricate hand work.



Clamp this jig to your workbench, then pull up a chair and sit down. I find the best height for working is when the jig is about shoulder high.

There are special saws, called fret saws, designed for this kind of intricate work. But, I use a coping saw with a fine-tooth blade — 20 teeth per inch.

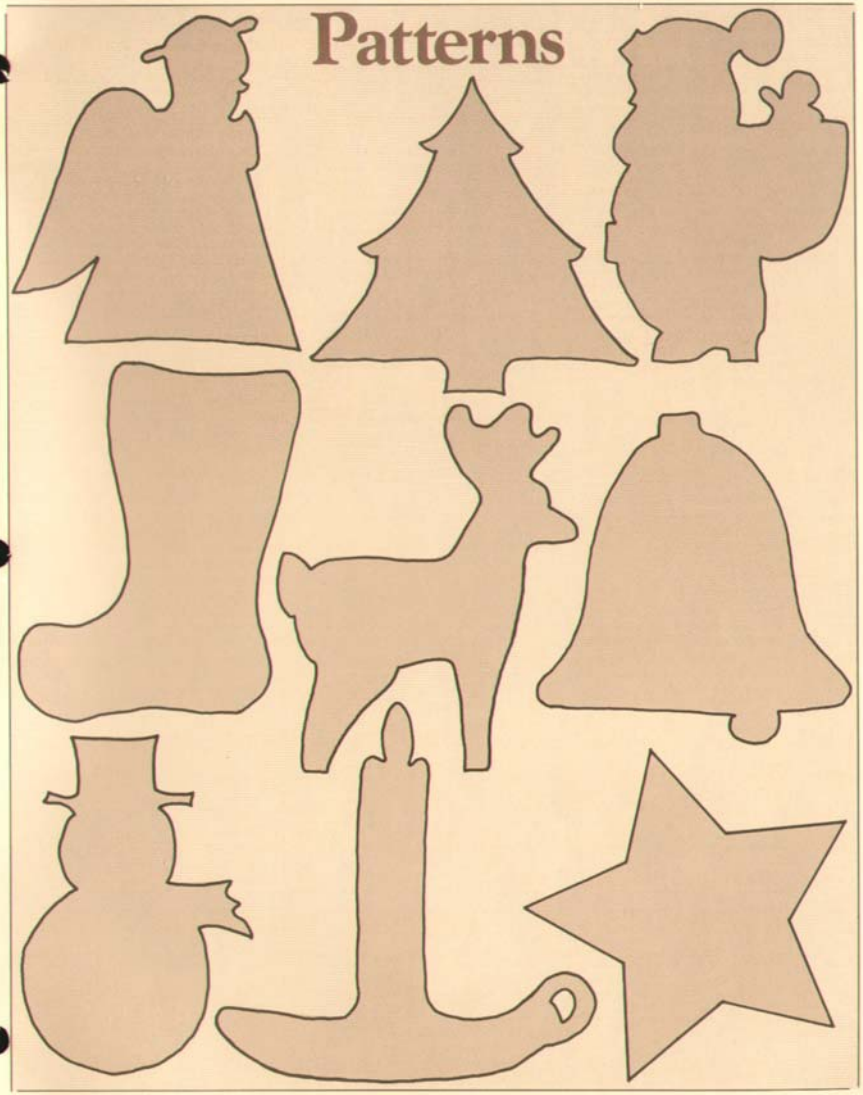
Once the ornaments are cut out, file them to their final shape with a set of pattern makers files (also called needle files). *Sears* and *Woodcraft Supply* both sell sets of 12. These are very small files of various shapes that allow you to file irregular shapes.

Finally, drill 1/16" holes and thread a piece of string or yarn through. I gave each ornament two coats of *Hope's* 100% Pure Tung Oil.

At tree-trimming time, go ahead, hang them in a prominent place where everyone will see them.

Design: Sheila Barger

Patterns



Christmas Tree

DISPLAY YOUR FAVORITE ORNAMENTS OR CARDS

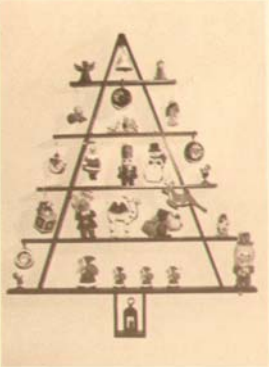
This wooden Christmas tree will cheer up a wall in any room — perhaps in one of the kids' rooms, or a basement family room. It's shown here decorated with ornaments, but also could be used to display Christmas cards or scaled up as an outdoor display.

The tree is made from ¼" x 1-3/8" molding strips (available at most lumber yards). You'll need two 8-foot lengths. The easiest way to go about cutting the pieces is to cut each piece ½" to 3/4" longer than shown in the Materials List. Then, rather than trying to lay out all of the cuts for the edge half-laps at once, start at one end, and measure and cut. Finally, trim off the waste at the other end.

THE SIDE PIECES

The notches in the two side pieces (A and B) are cut at a 20° angle. Start by mitering what will be the top end at 20°. When cutting the notches in the right side (Side A), the miter gauge is set at the 20° mark on the right scale, as shown in the bottom drawing in Fig. 2. When cutting the left side (Side B), the miter gauge is set at 20° on the left scale (top drawing in Fig. 2).

The first notch (edge half-lap joint) is 5" from the top end, and the next three notches are 5" apart. After cutting the notches in the right side, use it to mark the positions of the notches in the left side. Finally, miter the bottom end of each side piece at 20°.



MATERIALS LIST

A	Right Side	¼ x 1⅜ - 26⅛
B	Left Side	¼ x 1⅜ x 26⅛
C	Bottom	¼ x 1⅜ - 24*
D	Crosspiece	¼ x 1⅜ - 20⅛ *
E	Crosspiece	¼ x 1⅜ - 17¼ *
F	Crosspiece	¼ x 1⅜ - 13⅜ *
G	Crosspiece	¼ x 1⅜ - 10⅛ *
H	Trunk	¼ x 1⅜ - 4
I	Trunk	¼ x 1⅜ -3
J	Triangular brace	(see text)

*Cut long, then trim to fit; see text.

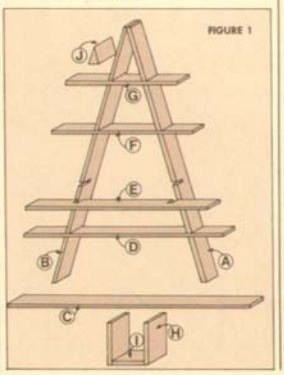
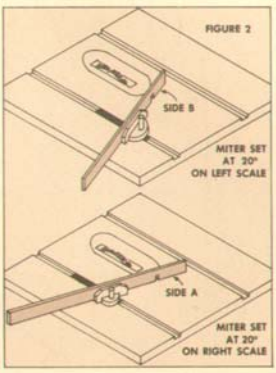
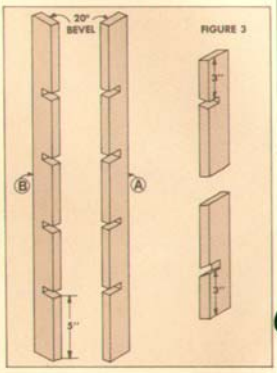
THE TRIANGULAR BRACE AND CROSSPIECES

Next cut the triangular brace (J). Rip a piece of scrap 1x2 to the width of the molding strips. Set the blade for a 20° bevel cut and cut off the end of the 1x2 at 20°. Flip the 1x2 over and make a second cut at 20°. The "waste" after making this second cut is the triangular piece (J).

Cut the bottom crosspiece (C) to length and temporarily tack the sides, bottom crosspiece, and the triangular brace together with small brads. Place each of the crosspieces (cut to rough length) in the notches so one end sticks out 3" from the side. Mark the positions of the notches on the crosspieces and measure out 3" on the other end. Each notch in these crosspieces is cut with the miter gauge at 20°.

FINAL ASSEMBLY

The trunk is glued and tacked to the bottom piece (C). But, in order for the tree to be easily disassembled for storage, none of the other pieces are permanently attached. Use No. 2 x ½" Fh screws to fasten the bottom piece (C) to the sides, and the top of the sides to the triangular brace. The other crosspieces simply slide into place.

The tree can be finished almost any way you want — leave it natural or paint it a Christmas green. (This one is painted with two coats of enamel.)

Design: Adolph E. Peschke